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Case Report

Seborrheic Dermatitis Induced by Afatinib

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Abstract

Background: Afatinib is an inhibitor of the epidermal growth factor receptor (anti-EGFR) developed in the treatment of some metastatic cancers.

Methodology: We present a particular case of seborrheic dermatitis in an adult women treated by afatinib for metastatic lung cancer.

Results: The main adverse events of EGFR tyrosine kinase inhibitors are commonly cutaneous and gastrointestinal. the prevention and management of this complications would improve the quality of life and treatment adherence of these patients. Commonly experienced dermatologic side effects include papulopustular rash, acne, radiation dermatitis enhancement, pruritus, xerosis, fissures, mucositis, hair changes, and paronychia. The scalp involvement is rarely described.

Conclusions: We report a particular case of seborrheic dermatitis secondary to Afatinib, that is an uncommon undesirable cutaneous side effect of anti-EGFR.

Keywords: *Afatinib; Seborrheic Dermatitis; Epidermal Growth Factor Receptor Cutaneous; Adverse Effect*

Introduction

Afatinib is an inhibitor of the epidermal growth factor receptor (anti-EGFR) developed in the treatment of metastatic cancers, including pulmonary and colorectal cancers [1]. The main adverse effects of these targeted therapies are cutaneous. However, the scalp involvement is rarely described and particularly troublesome as these affect a patient's psychosocial well-being and increase the risk of secondary skin infections, which ultimately affects dose intensity [2]. We report a particular case of seborrheic dermatitis secondary to afatinib.

Case Presentation

A 54-year-old patient, followed since 6 months, in oncology for a metastatic broncho-pulmonary adenocarcinoma treated with afatinib. It had presented 4 months after the introduction of this anti-EGFR, pustulo-crustal lesions of the scalp with modification of the texture of the hair becoming frizzy. The dermatological examination revealed a carapace of the scalp with some pustules and yellowish crusts (Figure 1). The pull hair test was negative. Dermoscopy showed thick, yellowish, perifollicular scales with glomerular vessels (Figure 2). Wood's light and mycological assessment were negative (Figure 3). The main probable diagnoses were seborrheic dermatitis and or aseptic pustulosis of the scalp. A skin biopsy was performed. The histological examination confirmed the diagnosis of seborrheic dermatitis. Local treatment with ketoconazole was initiated in association to the application of topical corticosteroids on the scalp. The therapeutic dose of afatinib has not been edited. At 3 months, the evolution was favorable with almost complete regression of the lesions (Figure 4).

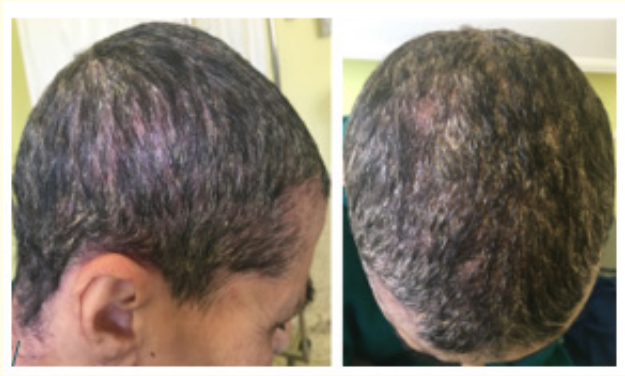

Figure 1: *A carapace of the scalp with some pustules and yellowish crusts.*

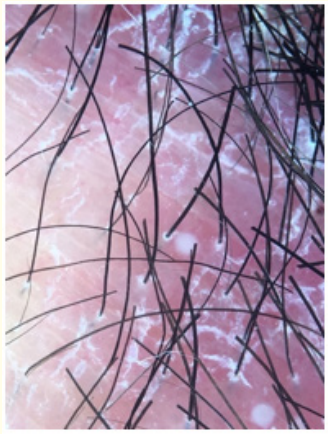

Figure 2: *Dermoscopy showing thick and yellowish perifollicular scales with glomerular vessels.*

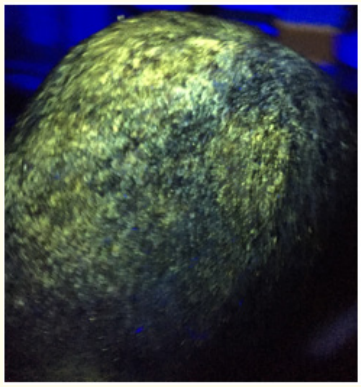

Figure 3: *Wood's light showing no contrast enhancement.*

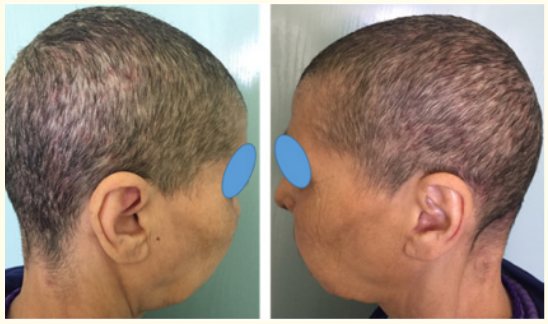

Figure 4: *Clinical appearance after 2 weeks of treatment.*

Discussion

Afatinib targets the epidermal growth factor receptor (EGFR), is an irreversible blocker of the ErbB family, acting at the tyrosine kinases of these proteins. In 2013, it was approved by the FDA and the EMA for the treatment of adults with advanced, EGFR mutation-positive non-small-cell lung cancer [3]. Although EGFR tyrosine kinase inhibitors are commonly associated with skin and gastrointestinal-related adverse events [2]. Incidences of these side effects are frequent and range from 36% for mucositis to 80% for papulopustular rash [4]. Commonly experienced dermatologic side effects include papulopustular rash, acne, radiation dermatitis enhancement, pruritus, xerosis, fissures, mucositis, hair changes, and paronychia [4]. The EGFR tyrosine kinase inhibitors have been linked to severe scalp inflammation associated to hair loss with some severe form of folliculitis decalvans [2]. A few cases of pustular scalp involvement are described in patients treated with erlotinib and gefitinib. To our knowledge, no case of seborrheic dermatitis induced by afatinib has been reported in the literature. Seborrheic Dermatitis is a chronic, recurring inflammatory skin disorder that manifests as erythematous macules or plaques with varying levels of scaling associated with pruritus. It tends to occur on seborrheic areas, such as the scalp, face, chest, back, axilla, and groin areas [5]. The diagnosis is generally clinical. In our case, the skin biopsy of the scalp was mandatory, given the rarity of this side effect, the severity of the clinical presentation and to eliminate a possible aseptic pustulosis of the scalp. The most commonly used treatment is topical antifungal and anti-inflammatory agents. Other broadly used therapies include lithium gluconate/succinate, coal tar, salicylic acid, selenium sulfide, sodium sulfacetamide, glycerin, benzoyl peroxide, aloe vera, mud treatment, phototherapy. Systemic therapy is reserved only for widespread lesions or in cases that are refractory to topical treatment [5]. These effects are usually mild, but severe cases can occur [2]. When severe, dermatologic toxicities may to lead to dose modification or discontinuation by 36% and 72% of health care providers, respectively. Although the side effect profile may be primarily dermatologic, toxicities result in significant physical and emotional discomfort, thus it is critical to maximize supportive measures [4]. Fortunately, our patient had a good evolution with a regression of lesions under local treatments. No dose reduction of afatinib was achieved. However, a maintenance treatment was proposed for our patient, because she continued to take the afatinib which is the inducing drug. Therefore, patient education, early diagnosis, and prophylactic treatment are important strategies to optimally manage EGFR tyrosine kinase inhibitors -related adverse effects [2,6].

Conclusion

Seborrheic dermatitis is a poorly described undesirable effect of anti-EGFR but can significantly impair the quality of life. We describe the first case of seborrheic dermatitis induced by afatinib. Its management is based on the administration of local antifungals and the application of topical corticosteroids, see phototherapy or high dose cyclins for severe cases. The coordination with the oncologist is necessary for optimal management of patients.

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